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USSR MATERIALS AND MATERIALS PROCESSING EQUIPMENT

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USSR MATERIALS AND MATERIALS PROCESSING EQUIPMENT

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I. CHEMICAL INDUSTRY

Construction Project Bottlenecks

SLOW EQUIPMENT DELIVERIES MAY DELAY PLANT OPENING -- Moscow, Izvestiya, 7 Aug 60

The date for putting the first stage of the Stavropol' Synthetic Rubber Plant, Kuybyshevskaya Oblast, into operation is approaching. Initially, rubber will be produced from raw material brought in from elsewhere; but by 7 November 1960, the first stage of the plant is to begin operating in accordance with its planned technological layout.

However, there is much anxiety regarding deliveries of equipment. The Kazan' Compressor Plant was to have delivered a refrigeration machine in the fourth quarter of 1959 and five more such machines in the first and second quarters of 1960; only two machines have arrived at the building site, and these are not fully outfitted. The Podol'sk Heavy Machine Building Plant month after month defers production and delivery of 230 tons of components for two converters. The Penzkhimmash [Penza Chemical Machinery] Plant has failed for over a year to fill an order for the production of nine polymerizers.

CPYRGHT

Many more cases could be cited. The net effect has been that not one shop of the first stage has been fully equipped. The lack of shut-off [pipe?] fittings prevents testing of equipment that has been installed.

Some Gosplan [State Planning Committee] personnel take a carelessly indifferent attitude toward equipment orders. On 20 February 1960, for instance, Soyuzglavelektro [All-Union Main Administration for the Supply of Electrical Equipment?] of Gosplan USSR issued Order No 483-41022 to the Dagelektroavtomat Plant of the Dagestanskiy Sovnarkhoz for 111 control automatics. When the automatics did not come, a letter was sent urging speedy delivery. The reply read as follows: "The directorate, party, trade union, and Komsomol organizations of the Sulak Electric Automatics Plant (Dagelektroavtomat) of the Dagestanskiy Sovnarkhoz acknowledge receipt of your letter, in which you requested production and delivery of automatics in April 1960. However, our plant is only in the construction stage and according to the state plan, its first stage will go into operation in the first quarter of 1960. For that reason, we shall be unable to fill your order by the date indicated in your request."

To cite another example, in December 1959, Yegorov, chief of the Pump and Compressor Division, Soyuzglavmash [All-Union Main Administration for the Supply of Machinery?] of Gosplan USSR, directed an order (bearing the stamped notation: For an Enterprise on the Important

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Projects List) to the Nal'chik Machine Building Plant for ten pumps. Foundations for the pumps were prepared at the synthetic rubber plant site, but it was discovered that the Nal'chik plant did not produce pumps of the type ordered. It was necessary to rebuild the foundations to accommodate another type of pump so as not to delay progress on the plant.

An order was sent to the Bobruysk Machine Building Plant for four pumps, two with explosion-proof motors. The Bobruysk plant said it could not fill the order.

Officials of Kuybyshevgidrostroy [Kuybyshev Hydroelectric Power Plant Construction Project] and the directorate in charge of building the synthetic rubber plant have not once remonstrated with Gosplan USSR about the handling of orders for equipment.

Such irregularities in the placing and filling of equipment orders have resulted in nonfulfillment of equipment installation plans. The installation plan for the first 6 months of 1960 was not fulfilled although the plant builders exceeded their planned tasks.

Not long ago, Nadtochiy, Minister of Construction RSFSR, and Vasil'yev, chief of Glavsantekhmontazh [Main Administration of Sanitary Engineering and Installation Operations?] which controls the installation organizations working on this project, visited the rubber plant construction site. They extended considerable aid to the builders, although not all difficulties were alleviated. Tools and instruments are still in short supply. All possibilities for speeding up the work are not being fully utilized by Construction and Installation Administration No 1 of Kuybyshevgidrostroy.

EQUIPMENT NOT DELIVERED ON SCHEDULE -- Tallin, Sovetskaya Estoniya, 2 Aug 60

CPYRGHT

Several shops of the Salavat Petrochemical Combine are scheduled to go into operation in 1960. Among the numerous enterprises of the country participating in construction of the combine is the Tallin Machine Building Plant, which is supplying various kinds of technological equipment.

Unfortunately, the Tallin Machine Building Plant is not meeting its obligations, and equipment produced by the plant is not reaching the building site on time. Some 40 units of technological equipment were not delivered in the first quarter of 1960.

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Mineral Deposit Development

SCIENTIST PLANS UTILIZATION OF ARMENIAN NEPHELINE SYANITES -- Moscow, Ekonomicheskaya Gazeta, 12 Jul 60

CPYRGHT

M.G. Manvelyan, Corresponding Member of the Academy of Sciences Armenian SSR, has developed in the Scientific Research institute of Chemistry, Armenian Sovnarkhoz, a comprehensive plan for utilizing the nepheline syanites in the Tezhsarskiy deposit. From the nepheline syanites, he has isolated alumina, portland cement, potash, sodium metasilicate, Yerevanite, and secondary products.

Yerevanite has excited special interest as a new chemical product. It is the result of the action of carbon dioxide on sodium metasilicate. In a soda solution, it precipitates as amorphous alumina. When dried, the precipitate becomes a white, highly pure material which Manvelyan has named Yerevanite. Its ferric oxide content of 0.0002-0.0005 percent is higher that that of any sand now used in making glass. Yerevanite may be used to produce high-grade glass, mirror glass, optical glass, crystal, and fiber glass. When Yerevanite is used, it is not necessary to add sand or soda to the charge.

When the Razdan Mineral-Chemical Combine is constructed on the basis of the nepheline syanites in Armenia, provision will be made for the production of Yerevanite as a raw material for the glass industry.

COMBINE BEGUN TO EXPLOIT MINERAL DEPOSITS -- Kiev, Pravda Ukrainy, 30 Jul 60

CPYRGHT

Construction of a mineral-chemical combine has begun near the Armenian city of Razdan, at an elevation of 1,700 meters above sea level.

Petrochemicals

PETROLEUM GASES TO YIELD NUMEROUS PRODUCTS -- Moscow, Izvestiya, 14 Aug 60

CPYRGHT

The Stavropol' Synthetic Rubber Plant, the Novokuybyshevsk Synthetic Alcohol Plant, and the Otradnyy Refinery form a chemical industry complex being built on the Volga River. Technologically interrelated, the units of the complex will process petroleum gases and produce alcohol, phenol, acetone, rubber, and many types of polymers.

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CPYRGHT

The first stage of the synthetic alcohol plant has gone into operation a year ahead of schedule. The construction site, occupying 40 hectares, is now the scene of hurried activities to put the second stage of the plant into operation.

Rubber

CONSTRUCTION OF COMBINE STARTED -- Moscow, Ekonomicheskaya Gazeta, 22 Jul 60

CPYRGHT

Construction of a rubber combine has begun in Saransk, Mordovskaya ASSR. The republic Komsomol organization is sponsoring the project. The first stage of the enterprise will go into operation in 1963.

Chemical Fibers

ORIGIN OF FIBER NAME EXPLAINED -- Moscow, Komsomol'skaya Pravda, 31 Jul 60

CPYRGHT

Four years ago, after long and persistent research, a new fiber was developed. It was named "lavsan" in honor of the laboratory in which it was first obtained, the Laboratory of High Molecular Compounds of the Academy of Sciences (laboratoriya vysokomolekulyarnykh soyedineniy adademii nauk). Today, hundreds of kilograms of "lavsan" are produced daily at the synthetic fiber plant in Kursk.

CONSTRUCTION OF COMBINE NEARING COMPLETION -- Moscow, Komsomol'skaya Pravda, 20 Jul 60

CPYRGHT

The Cherkassy Artificial Fiber Combine will produce its first tons of viscose by the end of 1960. Construction of the plant buildings, heat and electric power plant, and other facilities is approaching completion. Installation of equipment is in progress. The Leningrad Plant imeni Karl Marx is installing spinning machines, while Specialized Administration No 30 of Promtekhmontazh [Industrial and Engineering Installation?] Trust is installing quartz filters in the acid station.

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Plastics

MOSCOW TOY PLANTS EXPAND PLASTIC ANIMAL OUTPUT -- Moscow, Vechernyaya Moskva, 28 Jul 60

CPYRGHT

The Celluloid Toy Factory and the Soft Toy Factory No 1, enterprises of the Administration of Polygraphic Industry Enterprises, Moscow City Executive Committee, have organized the production of toys out of "porolon." This synthetic material, a porous plastic, is very light, washable, and easily tinted. Use of "porolon" has permitted the plants to greatly diversify their toy output. "Porolon" dogs, elephants, camels, giraffes, zebras, and penguins are already being dispatched to the stores.

Paint and Varnish

SYNTHETIC DRYING OIL WILL REPLACE EDIBLE OILS -- Moscow, Ekonomicheskaya Gazeta, 10 Aug 60

The Yaroslavl' Svobodnyy Trud Paint and Varnish Plant has produced a synthetic drying oil which is as good as natural drying oils made from edible vegetable oils. It has been estimated that large-scale output of the new product will permit the Yaroslavl' plant to release about one third of the food-type raw materials it now uses in paint and varnish production.

It has also been found that minute styrene-butadiene resin particles are a low-cost raw material for the paint and varnish industry. New coatings produced on the basis of this resin do not require vegetable oils or other solvents. Water, available everywhere, serves as a thinner when the coatings are shipped in concentrated form.

The Yaroslavl' Svobodnyy Trud Paint and Varnish Plant laboratory is now engaged in developing new water-base coatings for use in areas with very low temperatures.

CPYRGHT

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Benzidine

MECHANIZED SHOP BEING AUTOMATED -- Moscow, Vechernyaya Moskva, 12 Jul 60

CPYRGHT

Some production processes hazardous to human health are being mechanized and automated at the Moscow Dorogomilovskiy Chemical Plant. For example, all processes are now mechanical in the shop that produces benzidine, a raw material for dyes. At present, the existing continuous production line is being automated and will be operated from a central control point. About 200 instruments, connected with the operating equipment by more than 10 km of electrical wiring, will soon be in operation.

Ammonia

NEW FACILITY REACHES PLANNED CAPACITY -- Moscow, Ekonomicheskaya Gazeta, 10 Aug 60

CPYRGHT

The new ammonia facility placed in operation at the Kemerovo Chemical Combine 1 1/2 months ago has attained planned capacity. The combine now produces formalin and urotropin in addition to ammonia. Additional ammonia production facilities will go into operation in the coming months.

Furfuramide

TECHNOLOGY DEVELOPED FOR PRODUCTION FROM COTTONSEED HULLS -- Moscow, Ekonomicheskaya Gazeta, 10 Aug 60

The technology for producing a new chemical product, furfuramide, has been perfected at the Andizhan Hydrolysis Plant. The Moscow Tire Plant has successfully tested furfuramide as an accelerator in the vulcanization of rubber.

Cottonseed hulls, a waste material of the oil extraction industry, serve as the raw material for furfuramide production. Andizhan chemists are preparing for large-scale output of the new product. All the necessary equipment has been produced on the premises of the hydrolysis plant.

CPYRGHT

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Freon

GAS SHORTAGE LIMITS REFRIGERATION EQUIPMENT OUTPUT -- Moscow, Ekonomicheskaya Gazeta, 14 Aug 60

CPYRGHT

The chemical industry consistently fails to supply refrigeration equipment plants with enough Freon-12 gas. Gosplan USSR and the chemical industry must compute the Freon-12 and Freon-22 needs of the machine building plants that produce refrigeration equipment and take measures to increase Freon output.

II. PETROLEUM AND GAS INDUSTRIES

Production

OIL, GAS, AND COAL PRODUCTION INCREASES IN RSFSR AND UZBEKISTAN -- Moscow, Sovetskaya Rossiya, 15 Jul 60

CPYRGHT

The Central Statistical Administration of the Council of Ministers RSFSR has released figures for crude oil, gas, coal, shale, and peat production in the RSFSR during the first 6 months of 1960.

The figures show the production of 56.5 million tons of crude oil, 16 percent more than in the same period of 1959, and of 12.2 billion cu m of gas, an increase of 34 percent.

As for solid fuels, the RSFSR accounted for 150 million tons of coal, an increase of 2 percent. Included in the coal output was 18.6 million tons of coking coal, 3 percent more than in the same period of 1959. The RSFSR also accounted for 2.4 million tons of shale and 19.6 million tons of peat. This was 6 percent more shale and 4 percent more peat than produced in the same period of 1959.

During the 1960 period, 7.9 million tons more crude oil, 3.1 billion cu m more gas, and 2.4 million tons more coal, including 616,000 tons of coking coal, were produced than in the first 6 months of 1959.

Output per worker increased 13 percent for oil and 5 percent for coal.

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Tashkent, Pravda Vostoka, 17 Jul 60

CPYRGHT

According to the Central Statistical Administration of the Council of Ministers Uzbek SSR, 790,000 tons of crude oil and 199 million cu m of gas were produced in the republic in the first 6 months of 1960. This was 13 percent more crude oil and 131 percent more gas than produced in the same period of 1959.

NEW FIELD IN KUYBYSHEVSKAYA OBLAST PRODUCES ITS FIRST OIL -- Leningradskaya Pravda, 16 Jul 60

CPYRGHT

The new Kuleshovka Oil Field in Kuybyshevskaya Oblast has started to produce its first commercial oil. Several high-yielding wells have been placed on stream at the field and large multistrata oil pools are being prepared for commercial development.

Moscow, Ekonomicheskaya Gazeta, 16 Jul 60

CPYRGHT

The wells at the Kuleskhovka Oil Field, which lies in the steppe region on the eastern side of the Volga in the southern part of Kuybyshevskaya Oblast, are each producing 150-200 tons of oil per day. An oil line has been laid from the field to Krotovka to connect the field with a major oil line.

Drilling

DRILLING RIGS MOVED INTACT OVER CASPIAN SEA -- Baku, Bakinskiy Rabochiy, 28 Jul 60

CPYRGHT

In June and July 1960, the Azmornefterazvedka Trust in Azerbaydzhan moved two 53-meter-tall drilling rigs over the Caspian Sea from location to location without dismantling them, something never done before in the USSR.

Each rig was placed intact on the deck of a crane ship and transported to the new location, where the rig was unloaded and set up again. An average of only 6 days per rig was required, or 300 working hours less per rig than previously. Heretofore, when the rigs has to be dismantled and then reassembled, 18-20 days were required.

Rigs of this height are used widely in the USSR and in the People's Democracies.

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DEEPEST EXPLORATORY WELL OF USSR SCHEDULED FOR STAVROPOL'SKIY KRAY -- Moscow, Sovetskaya Rossiya, 2 Aug 60

CPYRGHT

Groznyy -- A 53-meter derrick is being assembled near Sovetskoye, in the steppe region of Stavropol'skiy Kray, for drilling the USSR's deepest exploratory oil well to date. Slated to go to a depth of 5,500 meters, the well is expected to penetrate into the Lower Jurassic rocks, which, geologists believe, contain huge oil reserves in this area. The drilling, which is scheduled to start at the end of August, is to be done by a Groznyy drilling crew.

DEEP OIL WELL DRILLING IN KAZAKHSTAN -- Leningradskaya Pravda, 16 Jul 60

CPYRGHT

Drilling of the deepest oil well in the Emba oil basin of Kazakhstan has been started. The well is projected to a depth of 4,500 meters.

PROSPECTORS SEARCH FOR OIL AND GAS IN NEW REGION OF UZBEKISTAN -- Tashkent, Pravda Vostoka, 26 Jul 60

CPYRGHT

Prospectors are getting ready for deep exploratory drilling to search for oil and gas in the Ust' Urt region, more than 300 km from Kungrad, in the Kara-Kalpakskaya ASSR of Uzbekistan.

Building materials, drilling equipment, and other machinery are being moved from Andizhan to Kungrad, from where they will be transported by motor vehicles and tractors into the Ust' Urt region.

DRILLING TO START FOR OIL AND GAS UNDER AZOV SEA -- Moscow, Komsomol'skaya Pravda, 29 Jul 60

CPYRGHT

The first results of gravimetric and seismic exploration under the Azov Sea support the claims of the geologists who have maintained that there is oil and gas there. Drilling rigs are expected to go up soon in the region to search for the oil and gas.

MATERIAL, EQUIPMENT SHORTAGE DELAYS PROSPECTING IN KAZAKHSTAN -- Alma-Ata, Kazakhstanskaya Pravda, 29 Jul 60

CPYRGHT

The exploration for oil and gas in the Caspian Sea region of Kazakhstan has bogged down in the past year because of the shortage of equipment and materials resulting from the indifference of the Ministry of Geology and Mineral Conservation Kazakh SSR, even though Bogatyrev, the Minister, promised a year ago that the ministry would aid the prospectors in this region.

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CPYRGHT

As in previous years, the ministry has failed to aid the geological administration. The equipment allocated to this region is often diverted by the ministry to other oblasts. The region was allocated 32 drilling rigs and 272 motor vehicles in the past year, but the ministry provided it with only 19 drilling rigs and 96 motor vehicles; with only one third of the allocated tractors, bulldozers, and truck cranes; and with only 10 of the allocated 70 electric power stations of type ZHES-60. The drilling offices in the region are suffering from constant interruptions in the delivery of pipe, reagents, spare parts, and other materials.

Because of the unsatisfactory delviery of equipment and materials, the drillers of the Mangyshlakneftegazorazvedka Trust and of the Makat and Kulsary drilling offices were idle more than half the time in the past year. No one in the ministry is giving any thought to establishing mobile repair shops or building large [supporting] enterprises in the area between the Ural and Volga rivers or on the Mangyshlak Peninsula. Prospectors in these areas are forced to make round trips of 350-400 km to get a bolt or a nut.

Questions posed by the prospectors are decided very slowly, simply because there are no oil and gas specialists on the staff of the ministry who are acquainted with the rocks of the Caspian Sea region. The ministry requires only fulfillment of the drilling plan, that is, total amount drilled. The goal for figures often leads to the unreasonable selection of drilling sites and results in a waste of money.

New Oil, Gas Discoveries

NEW OIL REGION FOUND IN KURA RIVER VALLEY OF AZERBAYDZHAN -- Yerevan, Kommunist, 28 Jul 60

CPYRGHT

Baku -- Drilling equipment, pipe, and instruments are being moved to Karabagly, in the Kura River Valley of Azerbaydzhan, where a deep exploratory well turned out to be a flowing oil well. It is expected that the new gas-condensate pool will be contoured and placed on stream by the end of 1960.

Geologists believe that the new location will be similar to the Kyurovdag region in Azerbaydzhan.

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NEW GAS HORIZONS FOUND AT SHEBELINKA FIELD -- Moscow, Vechernyaya Moskva, 25 Jul 60

CPYRGHT

New gas horizons have been discovered at the Shebelinka Gas Field in the Ukraine. As the testing of exploratory well No 57 was completed, a thick gas-bearing seam comprised of five horizons was discovered in the Upper Carbon formation at a depth of about 2,500 meters. Preparations are now under way to connect the new discovery well to a pipeline so that the well may be placed on stream.

GAS WELL PRODUCED IN TAIGA REGION OF SIBERIA -- Moscow, Sovetskaya Rossiya, 30 Jul 60

CPYRGHT

Tyumen' -- A gas well with an initial output of about 600,000 cu m per day has been brought in at the Tugiyanskiy structure in the Taiga region of Tyumenskaya Oblast. The new discovery is located south of the Chuel' Gas Field.

Refining

NEW REFINERY STARTS PARTIAL OPERATIONS IN EAST SIBERIA ALONG ANGARA RIVER -- Moscow, Sovetskaya Rossiya, 3 Aug 60

CPYRGHT

Angarsk, Irkutskaya Oblast, 2 August -- The Irkutsk Oil Refinery (the first such enterprise in East Siberia), still under construction at Angarsk along the Angara River, today produced the first gasoline from its atmospheric vacuum still. A complete refining unit embracing several refining processes is scheduled to go on stream later.

Moscow, Komsomol'skaya Pravda, 3 Aug 60

CPYRGHT

The new oil refinery under construction at Angarsk is now receiving its crude oil by rail, but later will obtain its feed stock from fields in the Bashkirskaya ASSR through the Tuymazy-Irkutsk oil line. This line, now under construction, has already been laid beyond Krasnoyarsk.

The new Angarsk plant is being built according to the latest engineering methods and will be provided with the latest type of equipment. When operating at full capacity, it will process millions of tons of crude oil annually. Besides gasoline, the refinery will produce diesel fuel, mazut, and a wide assortment of lube oils for use in the eastern regions of the USSR.

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MULTIPRODUCT REFINERY GOING UP IN YAROSLAVL'SKAYA OBLAST NORTH OF MOSCOW -- Leningradskaya Pravda, 24 Jul 60

CPYRGHT

The construction of the Novo-Yaroslavl' Oil Refinery is proceeding rapidly.

The new enterprise is being supplied with the latest type of equipment and will use the most modern technology in operations. It will produce a wide variety of products. In addition to light products, it will produce boiler and diesel fuel, naval mazut, petroleum asphalt, and various types of oils, as well as feed stock for the chemical industry.

NATURAL GASOLINE PLANT STARTS NEAR SHEBELINKA GAS FIELD -- Kiev, Pravda Ukrainy, 24 Jul 60

CPYRGHT

A natural gasoline plant has gone on stream near the Shebelinka Gas Field in Khar'kovskaya Oblast of the Ukraine. The new facility will use the condensate from the field as feed stock for the production of gasoline, diesel fuel, and compressed gas. The entire refining process will be automated through control and regulation from a central control panel.

Storage

PETROLEUM STORED UNDERGROUND TO PREVENT EVAPORATION OF LIGHT PRODUCTS -- Berlin, Maschinenbautechnik, May 60, p 270

CPYRGHT

At least 3 percent of the gasoline in petroleum is lost per year through evaporation during storage in ordinary metal tanks above ground.

The Soviet Union has tried to solve this problem by storing petroleum in underground salt caverns. In its first attempt of this nature, it has stored 2,500 tons of petroleum over a 4-month period in the salt caverns in the Bashkirskaya ASSR. Contact with rock salt and brine does not affect the quality of the petroleum. Moreover, it has been found that the storage of petroleum in rock salt reservoirs provides a major protection against evaporation.

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Pipelines

OIL LINES MOVE MORE CARGO THAN IN 1959 -- Tallin, Sovetskaya Estoniya, 13 Jul 60

CPYRGHT

During the first 6 months of 1960, USSR oil lines moved 25 billion ton-km of cargo, 6 percent more than planned and 29 percent more than in the same period of 1959.

BUILDERS OF MINSK GAS LINE PUSH PROJECT NEARER TO CITY -- Vil'nyus, Sovetskaya Litva, 28 Jul 60

CPYRGHT

The builders of the gas line under construction from the Dashava field in the Ukraine to Minsk, Vil'nyus, and Riga are getting nearer and nearer to Minsk. It is expected that the line from Dashava to Minsk will be opened by early November 1960. Later, natural gas will also be delivered from Dashava to thousands of apartments in Vil'nyus, Kaunas, Shyaulyay, Panevezhis, Riga, and other cities in the Baltic sea region.

[Comment: According to previous Soviet publications, the line from Dashava will bifurcate at Ivatsevichi, in Brestskaya Oblast. One branch will run to Minsk and the other to the Baltic Sea region.]

GAS LINE PLANNED ALONG LENA RIVER IN SIBERIA -- Kiev, Pravda Ukrainy, 30 Jul 60

CPYRGHT

Yakutsk -- A 400-km gas line along the left bank of the Lena River in Siberia is planned. Construction is expected to begin in 1961.

Huge natural gas reserves have been found in the northern part of the Yakutskaya ASSR since a gas discovery well was brought in there 3 1/2 years ago. The area around the mouth of the Vilyuy River, a tributary of the Lena, is only the initial location of gas. Villages inhabited by geologists have grown up now in the taiga region.

Specialists unanimously believe that there is gas in virtually the entire Arctic Circle region, up to the Verkhoyanskiy Khrebet in the east and along the shore of the Laptev Sea.

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NEW LINES TO CARRY GAS FROM FIELDS IN UZBEKISTAN TO CENTRAL ASIA, U... URALS -- Alma-Ata, Kazakhstanskaya Pravda, 23 Jul 60

Although geologists claim that the rocks in Kazakhstan should contain huge gas reserves, no gas deposits have been explored as yet in the republic.

The Seven-Year Plan calls for a large volume of geological exploration which should increase natural gas reserves in the republic by 100 billion cu m, but the Ministry of Geology and Mineral Conservation Kazakh SSR has been very slow in expanding its search for gas. In 1959, only 350 meters of exploration drilling was performed in the republic. This type of drilling is under way only in the area between the Volga and Ural rivers in Kazakhstan, the most promising gas region in the republic.

Alma-Ata is scheduled to receive gas in 1965 from the gas fields in the Bukhara-Khiva region of Uzbekistan through the trunk line that is to run from Dzharkak to Alma-Ata via Tashkent, Chimkent, Dzhambul, and Frunze.

CPYRGHT

The demand for gas in the centrally located Karaganda, Balkhash, and Dzhezkazgan areas of Kazakhstan amounts to some 5 billion cu m per year. The delivery of this quantity of gas would require the construction of a separate gas line nearly 2,000 km long, from Dzharkak to Karaganda via Tashkent, and construction would cost some 2 billion rubles. Another survey has shown that it is possible to extend the line under construction from the Espe area to Karaganda with lateral lines to Balkhash and Dzhezkazgan. The sector from Dzharkak to Espe would be built from 1,020-mm pipe, instead of 720-mm pipe. Under this plan, only a new 800-km line of normal diameter would have to be laid and this would save 320 million rubles and 50,000 tons of metal.

The western route has been adopted for the Gazli-Urals gas line, the second gas line that will run through Kazakhstan. This route, which is better than a direct route through the desert because there are better land and transportation conditions and more support locations, will run from the Gazli Gas Field [in Uzbekistan] along the Amu-Dar'ya River and the Chardzhou-Kungrad railroad, through the arid and rocky Ustyurt Plateau, and along the western shore of the Aral Sea, and then cross the Kandagan-Tashkent railroad at the Solenaya railroad station.

The Gazli-Urals line will be a dual line, with one line running from Gazli to Chelyabinsk and the other from Gazli to Sverdlovsk. The Gazli-Chelyabinsk section is slated to open in 1963 and will deliver cheap fuel to the Lisakovskiy and Sokolovsko-Sarbayskiy ore-concentration combines in Kustanayskaya Oblast. Chimkent is scheduled to receive gas in 1961.

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CPYRGHT

The Dzharkak-Bukhara-Samarkand-Tashkent gas line, whose construction began on 20 March 1958, has been completed as far as Samarkand; it will be extended to Alma-Ata. Bukhara, Kagan, and Samarkand have already received gas. Four mechanized columns are now engaged in laying the sector to Tashkent.

GAS LINE SCHEDULED FOR KIRGIZIA -- Frunze, Sovetskaya Kirgiziya, 29 Jul 60

Osh -- A gas line is to be constructed from Mayli-Su to Osh. The line will supply gas not only to Osh, but also to Dzhalal-Abad, Kara-Su, and other inhabited points.

It has been found that the pressure at the Mayli-Su Gas Field is as much as 300 atmospheres. This high pressure will make it possible to deliver the gas without building a compressor station along the line.

CPYRGHT

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III. COAL INDUSTRY

Mines

THREE COAL MINES IN L'VOV REGION OF UKRAINE -- Kishinev, Sovetskaya Moldaviya, 29 Jul 60

CPYRGHT

Three modern, highly automated bituminous coal mines, with a combined production capacity of up to 6,000 tons of coal every 24 hours, are nearly ready to start operations in the L'vovskiy Economic Region of the Ukraine.

NEW COAL MINE OPENED IN DONBASS -- Kiev, Pravda Ukrainy, 11 Aug 60

CPYRGHT

Another coal mine, Mine No 2, has been opened in the Donbass. Built by the Stalinshakhtostroy Trust, the mine will supply high-grade coking coal to the ferrous metallurgy industry.

The mine is equipped with combines and other mechanisms and with automatic devices. It also has an underground trolley system that transports the miners to the working locations.

METAL PROPS PREVENT CAVING, HELP REDUCE COAL ASH CONTENT -- Kiev, Pravda Ukrainy, 27 Jul 60

CPYRGHT

Novovolynsk -- Metal is being used more widely than timber for propping to prevent a cave-in of the coal mines of the Novovolynskugol' Trust in Volynskaya Oblast. As a result, the trust has saved more than 5 million rubles since the beginning of 1960 through a reduction of 0.9 percent in the ash content of coal from its mines.

Mining Equipment

POWERFUL COAL-MINING AGGREGATE DESIGNED -- Vil'nyus, Sovetskaya Litva, 13 Jul 60

CPYRGHT

The Moscow State Planning, Designing, and Experimenting Institute for Coal Mine Machine Building (Giprouglemash) has developed the powerful A-3 coal mining aggregate, which will enable miners to extract 2.5-3 times as much coal and raise labor productivity to 3-4 times the previous level.

After passing its first successful tests in a mine of the Tulaugol' Combine, the new unit produced its first coal on 12 July 1960.

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MECHANIZATION SAVES OVER 5 MILLION RUBLES IN COAL INDUSTRY -- Kiev, Pravda Ukrainy, 26 Jul 60

The USSR has saved more than 5 million rubles since the beginning of 1960 at its coal pits and briquette plants in Kirovogradskaya Oblast as a result of the installation of more than 20 mechanized conveyer lines, 40 new machines and mechanisms, and automatic and remote control.

CPYRGHT

IV. FERROUS METALLURGY

Raw Material Reserves

RAW MATERIAL RESOURCES FOR IRON AND STEEL INDUSTRY -- Bucharest, Metalurgia si Constructia de Masini, Vol XII, No 5, May 60, p 469

Following an analysis of raw material resources in the eastern part of the USSR, Soviet scientists have reached the conclusion that eight to ten large iron and steel enterprises can be built in this region. They have estimated that the economically exploitable iron ore reserves discovered by geologists in Siberia and Kazakhstan will be sufficient for ten modern plants to produce steel for a period of 250 years.

CPYRGHT

The Kuznetsk Iron and Steel Combine, now being expanded, which will increase its production 150 percent; the combine currently being built in West Siberia; and the Plant in Karaganda will make up the third iron and steel base of the USSR. Construction will soon begin on the plant in Tayshet. The combined production capacity of these four enterprises will be approximately 20 million tons of pig iron per year.

The eastern regions of the country have the necessary reserves of coking coal. As of 1 January 1958, known reserves of this type of coal in the entire USSR amounted to 71 billion tons. The eastern deposits have considerable advantages over those of the Donbass in depth of the locations and size of the strata; the cost price of extraction is one third to one half that in the Donbass.

Ore Discovery

RICH IRON ORE DISCOVERED IN FAR EAST -- Baku, Bakinskiy Rabochiy, 16 Jul 60

CPYRGHT

Geologists have discovered a string of magnetite ore anomalies containing up to 65 percent pure iron in the area of the Khekhtsirskiy Range, in the form of an arc south of Khabarovsk.

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CPYRGHT

These ores are the richest in content found in the Far East. They can be used without concentration in a blast furnace. The ore lies on the surface.

At present, extensive geological and exploratory work is being conducted in Khekhtsir to determine the total reserves of the deposit of iron ore.

New Methods and Products

USE OF WATER IN IRON ORE EXTRACTION -- Bucharest, Metalurgia si Constructia de Masini, Vol XII, No 5, May 60, p 470

Soviet scientists have proposed the use of the hydraulic extraction method in the exploitation of inundated iron ore deposits. In their opinion, the energy of the subterranian torrents, which would take significant power and means to remove, can be used in the transportation, the lifting, and in some cases even the breaking up of the ore. At present, the hydraulic method is used only in coal extraction.

CPYRGHT

According to the plans developed by the Institute of Mines of the Academy of Sciences USSR, it is recommended that subterranean water be supplied through wells or pipes to the body of ore. If the pressure is not too great, pumps can be used.

The continuity of the technological process in hydraulic extraction permits broad application of automation and remote control. The new method can reduce the extraction costs in flooded mines by at least half.

STEEL DIRECTLY FROM IRON ORE -- Bucharest, Metalurgia si Constructia de Masini, Vol XII, No 5, May 60, p 470

A group of scientists from Kazakhstan have worked out the theoretical bases of the very rapid production of steel directly from iron ore, omitting the furnace process.

CPYRGHT

The scheme proposed by the scientists is based on the application of the so-called cyclonic method of smelting, which provides for the introduction of the raw material into a metallic cylinder, inside which a vortex of fire is produced that has the speed of a jet-propelled airplane. On entering the vortex, the particles of the raw material heat and are smelted immediately.

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CPYRGHT

Research has shown that the cyclonic method allows steel to be obtained directly from the ore.

The Academy of Sciences Kazakh SSR is working on a plan for installation for practical verification of the theoretical conclusions which have been reached.

NEW TYPE OF STEEL BEING PRODUCED -- Tashkent, Pravda Vostoka, 10 Jul 60

CPYRGHT

Begovat metallurgists have mastered the production of GS-35 low-alloy steel. This new type of steel has all the properties of GS-25 steel, formerly produced, but requires less ferromanganese, one of the most expensive ingredients of the open-hearth furnace charge. The plant saves 2 rubles per ton of rolled shapes made from the new steel.

New Plants

NEW PLANT TO PRODUCE FIRST STEEL -- Kishinev, Sovetskaya Moldaviya, 21 Jul 60

CPYRGHT

The Vil'nyus Fuel Apparatus Plant is one of the newest enterprises in Vil'nyus. In the foundry of this plant, the assembly of a special installation for the electric production of steel is being completed. The first steel will be produced by 3 August 1960.

PRODUCTION PROCESSES TO BE COMPLETELY AUTOMATED AND MECHANIZED -- Kishinev, Sovetskaya Moldaviya, 24 Jul 60

CPYRGHT

The Zapadnyy Siberian Metallurgical Plant is to be constructed twice as rapidly as the Cherepovets and Chelyabinsk plants and will have a greater capacity than either of them. The entire production of pig iron, steel, and rolled stock will be completely automated and mechanized.

Coking coal, extracted in large hydraulic mines constructed near the plant in the Baydayevskiy and Yesaul'skiy deposits, will be supplied to the plant by pipeline with the aid of water.

During the next 3 years, the following units will be put into operation: a blast furnace, a coke battery, two converters, a blooming mill, an agglomerating mill, a number of auxiliary shops, cultural and service establishments, and community enterprises. In 1965 the complex of the giant plant will be put into operation.

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Blast Furnaces

NATURAL GAS USED IN BLAST FURNACES -- Tbilisi, Zarya Vostoka, 13 Jul 60

CPYRGHT

Both blast furnaces at the Transcaucasus Metallurgical Plant imeni Stalin have been converted to the use of natural gas, which is reducing coke consumption 10-12 percent. All open-hearth furnaces are operating on natural gas.

Open-Hearth Furnaces

OPEN-HEARTH STEEL MILL PLANNED -- Bucharest, Metalurgia si Constructia de Masini, Vol XII, No 6, June 60, p 569

CPYRGHT

Engineers of the Institute for Metallurgical Enterprise Planning in Khar'kov have worked out the plan for an open-hearth steel mill with an annual production of 3. million tons of steel. This giant steel mill will process almost as much steel as that produced by all metallurgical plants in Czarist Russia in 1913.

The technological processes for working the charges will have a high level of automation. According to the plan, the steel mill will have six open-hearth furnaces with a capacity of 800 tons each, and with the possibility of increasing their capacity to 900 tons, without being reconstructed.

OPEN-HEARTH FURNACES OPERATING AHEAD OF SCHEDULE -- Moscow, Sovetskaya Rossiya, 15 Jul 60

CPYRGHT

Builders of the Orskmetallurgstroy Trust have put another open-hearth furnace into operation at the Orsk-Khalilovo Metallurgical Combine, 5 days ahead of schedule. On 14 July, steel workers completed two heats in the new aggregate.

At present, the builders are constructing the next open-hearth furnace, which they have resolved to complete in 1960.

Moscow, Sovetskaya Rossiya, 24 Jul 60

CPYRGHT

On 23 July, a new, heavy-load open-hearth furnace at the Cherepovets Metallurgical Plant produced its first steel.

The new open-hearth furnace, one of the largest in the USSR, was put into operation 2 months ahead of schedule.

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OPEN-HEARTH PRODUCTION AT UZBEK PLANT -- Tashkent, Pravda Vostoka, 30 Jul 60

CPYRGHT

During the first half of 1960, the Uzbek Metallurgical Plant imeni V. I. Lenin produced 9.27 tons of steel per square meter of hearth of its open-hearth furnaces.

Steel Furnaces

ROTARY STEEL FURNACE TESTED -- Moscow, Izvestiya, 13 Jul 60

CPYRGHT

Industrial testing of a rotary steel furnace was recently completed at the Nizhniy Tagil Metallurgical Combine.

According to V. P. Revebtsov, Candidate of Technical Sciences and director of the Institute of Metallurgy of the Ural Branch of the Academy of Sciences USSR, this new furnace consists of a cylindrical jacket with cone-shaped throats which rotates 0.2-1 turn/min. Steel is thus formed from molten iron with minimum fuel consumption.

Steel made by this new method is superior in several respects to that made by the open-hearth or converter processes.

NEW STEEL FURNACE PUT INTO OPERATION -- Moscow, Izvestiya, 19 Jul 60

CPYRGHT

Zaporozh'ye -- A new large-capacity steel furnace has been put into operation at the Zaporozh'ye Dneprospetsstal' Metallurgical Plant. A unit for electromagnetic agitation has been installed in this new furnace.

Plant Construction and Expansion

CONSTRUCTION OF COLD ROLLING SHOP STARTED -- Yerevan, Kommunist, 20 Jul 60

CPYRGHT

The construction of one of the largest USSR cold rolling shops has been started at the Cherepovets Metallurgical Plant. This shop will produce automotive sheet metal and electric steel.

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SECOND AGGLOMERATING BELT IN OPERATION AT MILL -- Moscow, Ekonomicheskaya Gazeta, 16 Jul 60

CPYRGHT

Builders and assembly workers of the agglomerating mill being erected at the Novo-Tula Metallurgical Plant have put into operation the second agglomerating belt, which is expected to have an output of 1,600 tons of high-quality raw material for blast furnaces every 24 hours. The new complex has already yielded its first products.

BRIQUETTING MACHINE IN OPERATION AT KHAR'KOV PLANT -- Kiev, Pravda Ukrainy, 15 Jul 60

CPYRGHT

A unique aggregate has been put into operation at the Khar'kov Electrical Machinery Plant, where industrial use of the first universal installation in the USSR for hot briquetting of steel and cast iron chips has begun. Monolithic briquettes, weighing up to 14 kg each, are formed. In remelting these briquettes, there is hardly any waste.

STEEL PRODUCING INSTALLATION OPERATING AT NOVO-LIPETSK PLANT -- Moscow, Ekonomicheskaya Gazeta, 31 Jul 60

CPYRGHT

On 30 July 1960, a second large industrial installation for the continuous pouring of steel was put into operation at the Novo-Lipetsk Metallurgical Plant.

The most up-to-date mechanisms for pouring steel into slabs, cooling ingots, automatically cutting slabs into regular lengths, and delivering slabs to the storage area are included in the make-up of the installation. It is equipped with modern means of automation, control, and communications, as well as with special hoist, transport, and other devices. Utilization of industrial television is planned.

V. NONFERROUS METALLURGY

Copper

AKHTALA MINE MAKES PRODUCTION GAINS -- Yerevan, Kommunist, 11 May 60

CPYRGHT

The Akhtala Mine, which works the Akhtala polymetallic and the Shamlug copper deposits, in 1959 fulfilled its plan for gross production 112 percent and increased labor productivity 11 percent over 1958. Production costs in 1959 were 5.7 percent less than in 1958.

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CPYRGHT

In 1960, the mine expects to raise labor productivity 19 percent over that of 1959 and to reduce production costs 3.4 percent. In the first quarter of 1960, the production costs of commercial products decreased 13.4 percent and 325,000 rubles was saved in addition to the savings expected from lowered production costs.

ORE RECOVERY UNDER WAY AT KAL'MAKYR COPPER DEPOSIT -- Moscow, Pravda, 4 Aug 60

CPYRGHT

Overburden removal has been completed at the Kal'makyr Copper Deposit, the largest copper deposit in the Uzbek SSR. Recovery of copper has already begun and a concentration mill is being constructed, the first section of which will be in operation in 1960. Meanwhile, ore is being processed at the existing lead-zinc concentration mill.

Copper ore lies close to the surface at the Kal'makyr Copper Deposit. All of it can be recovered by the open-pit system of mining, which at this deposit costs only two sevenths as much as the underground system.

DZHEZKAGAN COPPER DEPOSIT TO TRIPLE OUTPUT OF COPPER ORE -- Leningradskaya Pravda, 28 Jul 60

CPYRGHT

The first phase of the program of exploring for copper, lead, and other nonferrous metals was completed ahead of schedule by geological expeditions in the Dzhezkazgan area.

By the end of the Seven-Year Plan, the recovery of copper ore from the Dzhezkazgan Copper Deposit will be three times as great as it was in 1958 and the production of concentrates will be 3.4 times as great.

COMBINE PRODUCES ITS FIRST BLISTER COPPER -- Moscow, Sovetskaya Rossiya, 19 Jun 60

CPYRGHT

The Gay Copper-Sulfur Combine recently produced its first blister copper. Construction of an underground mine is progressing and the combine will put it into operation ahead of schedule in 1961.

During the first 6 months of 1960, overburden removal exceeded that planned by almost 600,000 cu m. By the end of 1960, construction of a concentration mill will be undertaken.

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COMBINE TO MORE THAN DOUBLE ITS PRODUCTION BY 1965 -- Ashkhabad, Turkmenskaya Iskra, 21 Jul 60

CPYRGHT

The mines of the Sibayevsk Deposit of the Bashkir Copper and Sulfur Combine will recover 2.5 times as much copper-zinc and sulfur ores in 1965 as in 1958.

PROGRESS REPORTED ON CONSTRUCTION OF ARMENIAN COPPER-MOLYBDENUM COMBINE -- Yerevan, Kommunist, 5 Aug 60

CPYRGHT

Construction of the Agarak Copper and Molybdenum Combine is proceeding at a rapid pace. The construction of the combine is one of the most important undertakings of the Armenian SSR in the field of nonferrous metallurgy. More than half the total volume of work involved in building the combine has already been accomplished.

The concentration mill of the combine, to be located 3.5 km from railroad loading platforms, will supply concentrates to the platforms by means of a system of pipelines. The cost of producing copper and molybdenum at the new combine will be considerably lower than in similar enterprises of the republic.

Aluminum

PLANTS IMPROVE PRODUCTION TECHNOLOGY -- Moscow, Ekonomicheskaya Gazeta, 17 Jul 60

CPYRGHT

Production in the field of nonferrous metallurgy is being perfected in the Stalingrad and Stalinsk aluminum plants. The installation of mechanized components of high capacity and latest design has doubled labor productivity in these plants.

CPYRGHT

NEPHELINE DEPOSITS DISCOVERED IN KUZNETSK ALA-TAU MOUNTAINS -- Frunze, Sovetskaya Kirgiziya, 14 Jun 60

Extensive deposits rich in nepheline have been discovered in the mountains of Kuznetsk Ala-Tau. Construction of a high-capacity mine has been started at the Kiya-Shaltyrskiy Deposit.

Nepheline will be processed in Achinsk, where an alumina plant now under construction will produce the cheapest alumina in the USSR. Achinsk alumina will be delivered to the aluminum plants of Siberia.

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ALUMINUM PLANT PRODUCES IRON POWDERS -- Kiev, Pravda Ukrainy, 11 Aug 60

CPYRGHT

Thus far in 1960, the Zaporozh'ye Dnepr Aluminum Plant has put into operation its second furnace for the production of iron powders from the scale obtained from the rolling shops of the Zaporozhstal' Plant.

ALUMINUM REPLACES COPPER IN MOTOR WINDINGS -- Kiev, Pravda Ukrainy, 29 Jul 60

CPYRGHT

The Yaroslavl' Electric Machine Building Plant had developed a technique for using aluminum instead of copper in its motor windings. The plant has produced its first output of such motors, with the result that more than 1.5 million rubles will be saved annually, as well as hundreds of tons of copper.

Nickel

NICKEL PLANT ACQUIRES FURNACE -- Yerevan, Kommunist, 30 Jul 60

CPYRGHT

The largest ore-smelting furnace in the USSR was recently put into operation at the nickel plant of the Noril'sk Mining and Metallurgical Combine. Most of the production processes at the plant have been mechanized and automated.

Another furnace, equal in capacity to the first one, will be installed in the plant in 1960, and by the end of the Seven-Year Plan, two more such furnaces will be in operation.

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